some way the ornament from the ground, deeply undercutting leaves and scrolls so as to make the work appear as light and airy as possible.

This tendency towards mechanical dexterity is apt to mar the quiet harmony and pure character of ornamental work, qualities which we always meet with in the great examples of Italian Renaissance. Still we cannot help admiring such perfection of workmanship in which the Italian artist excels, for our illustrations are fair specimens of carving not merely of one particular workshop, but represent the average productions of a great number of skilful art-workmen.

Plate 95. — Goblet in Silver, Parcel-gilt, German, 16th century.

This handsome piece, a good type of German Renaissance Art, may be considered as a solution of the problem of giving a form both convenient and elegant to a drinking cup, without making it too elaborate in design. Very original and handy are the embossed elongated bulbs below the necking. The engraved allegorical figures are highly suggestive for a memorial Cup.

Plate 96. — Marquetry Ornaments from the designs of Ihne and Stegmüller, Archts. in Berlin.

VARIOUS.

The Manufacture of Mosaics.

The modern process of making mosaics now commonly followed at Rome is this: A plate, generally of metal, of the required size is first surrounded by a margin rising about three-quarters of an inch from the surface. A mastic cement, composed of powdered stone, lime, and linseed oil is then spread over as a coating, perhaps a quarter of an inch in thickness. When set, this is again covered with plaster of Paris rising to a level with the margin, upon which is traced a very careful outline of the picture to be copied, and just so much as will admit of the insertion of the small pieces of smalto or glass is removed from time to time with a fine chisel. The workman then selects from the trays, in which are kept thousands of varieties of color, a piece of the tint which he wants, and carefully brings it to the necessary shape. The piece is then moistened with a little cement and bedded in its proper situation, the process being repeated until the picture is finished, when the whole, being ground down to an even face and polished, becomes an imperishable work of art. The process is the same for making the small mosaics so much employed at the present day for boxes, covers or articles of jewelry, and this work is sometimes upon almost a microscopic scale.

The Florentine mosaic, which is chiefly used for the decoration of altars and tombs, or for cabinets, tops of tables, coffers and the like, is composed of precious materials in small slices or veneers, and by taking advantage of the natural tints and shades which characterize the marble, the agate or the jasper, very admirable effects may be produced in imitation of fruit, flowers or ornaments. The use of this kind of mosaic is extremely restricted, on account of the great value and expense not only of the materials, but of the labor which is spent upon them. None but the hardest stones are used; every separate piece must be backed by thicker slices of slate or marble to obtain additional strength, and every minute portion must be ground until it exactly corresponds with the pattern previously cut.

Embossed Silk Velvet.

We see in the "*Moniteur des Fils et Tissus*" that two inventions have been patented in France, the object of which is to produce a new effect by embossing a design upon velvet in one or more colors, differing from that of the piece or ribbon. Each invention has different methods. We first consider the invention of M. David. The piece to be operated upon is rolled upon a drum behind the machine, where the roller is recessed the pile of the velvet forms a pattern in its natural condition, while the embossed parts, especially if done in colors form as it were, a ground of a different kind, by means of which very striking and pretty effects may be produced, the details of which may safely be left to the ingenuity and fancy of the printer.

Messrs. Vignets proceed somewhat differently. In this case the face of the velvet has a mordant or adhesive substance, such as gum, stearine etc., applied to it, and the coloring matter in a powder, or flocks of any material from the shearing machine, silk waste ground fine or any other substance, are then deposited upon it and made to adhere by heating the fabric. The piece is then passed under an engraved roller as in the method just described, and the patterns thus embossed upon it. The parts of the pile which pass into the recesses on the roller remain standing, and by submitting these projecting parts to the action of brushes, the substance deposited upon them is removed, but remains in the depressed portions and, as before, the printer can obtain results which, for variety and effect admit of variation almost without limit.

Scientific American from Textile Manufactures.

An Aerial Spy.

Mr. W. B. Woodbury has recently proposed an ingenious idea for taking photographs of an enemy's works from a balloon, without necessitating the presence of an aeronaut in the car. Electrical wires are run along the cable by which the air ship is held captive. Instead of a car a box is provided inside of which another box is pivoted so that it will keep horizontal. In the inner box is the photographic apparatus and over the lens is an ebonite shutter moved by the current to open or shut instantaneously. There is also a sensitized tissue on rollers in rear of the lens, which is operated by clockwork, also controlled by the current. When the balloon is elevated to the required height, the lens properly focused and the tissue in position, the shutter is set in motion by the current, giving instantaneous exposure. A photograph is thus obtained and by further controlling the clockwork fresh sensitized surface may be exposed and additional images taken.

Scientific American.

To Color Photographs.

Take a strongly printed photograph on paper and saturate is from the back with a rag dipped in castor oil. Carefully rub of all excess from the surface after obtaining thorough transparency. Take a piece of glass an inch larger alround than the print, pour upon it dilute gelatin and then "squeeze" the print and glass together. Allow it to dry, and then work in artist's oil colors from the back until you get the proper effect from the front. Both landscapes and portraits can be effectively colored by the above method without any great skill being required. *Scientific American.*
